

## **ABSTRACT**

The invention relates to methods and systems for detecting QRS complex in a ECG of a patient undergoing magnetic resonance imaging and automating data acquisition in the magnetic resonance imaging machine upon detection. The method and system operates by recording an ECG signal sample from the patient, receiving a real-  
5 time ECG signal from a patient undergoing MRI and correlating the real-time ECG signal with a previously determined QRS complex template derived from the ECG signal received from the patient before undergoing MRI.